



This document includes the Cover, Table of Contents, and Section 1.0 - Introduction, of the Draft EPA "Weather Deck Runoff Discharge Assessment Report" published in 2003. The reference number is: EPA-842-D-06-007

# **DRAFT**

## **Discharge Assessment Report**

### **Weather Deck Runoff**

Cover, Table of Contents, and Section 1.0 – Introduction

2003

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# **DISCHARGE ASSESSMENT REPORT**

## ***DECK RUNOFF***

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## **1.0 Introduction: Deck Runoff Discharge Assessment Report**

The National Defense Authorization Act of 1996 amended Section 312 of the Federal Water Pollution Control Act (also known as the Clean Water Act (CWA)) to require that the Secretary of Defense and the Administrator of the Environmental Protection Agency (EPA) develop uniform national discharge standards (UNDS) for vessels of the Armed Forces for “...discharges, other than sewage, incidental to normal operation of a vessel of the Armed Forces...” [Section 312(n)(1)]. UNDS is being developed in three phases. The first phase determined which discharges were required to be controlled by marine pollution control devices (MPCDs), which may be equipment, alternative materials, or management practices. The second phase (which this report supports), characterizes each discharge, along with evaluating the environmental effects and feasibility of MPCDs for each discharge. The final phase will determine the design, construction, installation, and use of the MPCDs.

Discharge Assessment Reports (DAR) are prepared for each vessel discharge requiring control as listed in the Code of Federal Regulations (CFR). A DAR is a summary of the technical documents prepared during the second phase of UNDS. These documents include: vessel grouping documents, characterization reports, MPCD screening documents, environmental effects analysis reports, and feasibility impact analysis reports. The information in these documents is obtained from discharge sampling and subsequent analyses, manufacturer’s data and recommendations, observations, process knowledge, and research.

The purpose of the DAR is to present key features of a discharge to allow decision makers to balance the seven statutory considerations to produce a performance standard for each vessel group that generates the discharge. The seven considerations are:

- The nature of the discharge;
- The environmental effects of the discharge;
- The practicability of using the MPCD;
- The effect that installing or using the MPCD would have on the operation or the operational capability of the vessel;
- Applicable U.S. law;
- Applicable international standards; and
- The economic costs of installing and using the MPCD.

The DAR is organized into six sections: discharge description; applicable laws and standards; vessels generating the discharge; MPCD options and screen results; discharge overview; and references. The discharge overview is divided into four subsections: the nature of discharge for each vessel group; a summary of the feasibility and environmental effect impacts; cost-benefit analysis (cost per toxic pound equivalent (TPE) removed); and summary of vessel group analysis.

### **1.1 General Discharge Description**

This section provides a description of deck runoff.

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### **1.1.1 Deck Runoff Definition**

Deck runoff is defined in 40 CFR 1700.4 as the precipitation, washdowns, and seawater falling on the weather deck and exposed portions of a vessel and discharged overboard through deck openings. A vessel intermittently produces deck runoff when water falls on or is applied to exposed surfaces, such as weather and flight decks, superstructure, bulkheads, and the hull above the waterline of a ship (e.g., freeboard and bulwark). Discharge constituents vary depending on the vessel's topside processes, and may include oil, grease, petroleum hydrocarbons, surfactants, cleaners, glycols, solvents, and particulates (e.g., soot, dirt, or metallic particles). One of the primary mechanisms for these constituents getting into deck runoff is that they become trapped in the rough deck surface (such as crevices, corners, and other irregularities of a deck surface) and are washed overboard during periods of rough seas or precipitation. All vessels generate deck runoff.<sup>1</sup>

### **1.1.2 Deck Runoff Categories and Processes**

To facilitate Phase II analyses, processes that contribute constituents to deck runoff were separated into six categories. The processes were grouped together according to the types of constituents in each process contributing to deck runoff. The categories and processes are shown in Table 1-1; section 5 includes a detailed discussion of these categories and processes.

**Table 1-1: Deck Runoff Categories and Processes**

<b>Category</b>	<b>Processes (Including Operation &amp; Maintenance)</b>
<b>Aircraft Launch and Recovery Equipment</b>	<ul style="list-style-type: none"><li>• Arresting Gear</li><li>• Catapult Operations</li><li>• Jet Blast Deflectors</li></ul>
<b>Buoy Maintenance</b>	<ul style="list-style-type: none"><li>• Maintenance and Preservation of Buoys</li></ul>
<b>Cleaning Activities/General Housekeeping</b>	<ul style="list-style-type: none"><li>• Aircraft Washdowns</li><li>• Electronic Intelligence/Navigation Systems Maintenance</li><li>• Equipment and Vehicle Washdowns</li><li>• Exterior Topside Surface Washdowns</li><li>• Firemain Systems (For use in exterior washdowns)</li></ul>
<b>Deck Machinery and Weapons Lubrication</b>	<ul style="list-style-type: none"><li>• Aircraft Elevators</li><li>• Buoy Handling Systems</li><li>• Fire Assist Vehicles</li><li>• Mine Handling Systems</li><li>• Recovery, Assist, Securing, and Traversing Systems</li><li>• Ship's Boats/Launching Systems</li><li>• Stores Handling Systems</li><li>• Towing and Mooring Systems</li><li>• Weapons Systems</li></ul>
<b>Exterior Topside Surface Preservation</b>	<ul style="list-style-type: none"><li>• Restoration of Painted Surfaces</li><li>• Flight Deck Safety Nets</li></ul>
<b>Vessel, Aircraft, and Vehicle Refueling and Lubrication</b>	<ul style="list-style-type: none"><li>• Aircraft Refueling</li><li>• Fixed Wing Aircraft Maintenance and Operations</li><li>• Fuel Transfer Systems</li><li>• Ground Support Equipment</li><li>• Rotary Wing Aircraft Maintenance and Operations</li></ul>

<sup>1</sup> To facilitate the UNDS Phase II analysis, the Discharge Assessment Team (DAT) determined that water that falls on or is applied to exposed surfaces and accumulates in the lowest part of the vessel (i.e., bilge) is classified as surface vessel bilgewater. Associated analyses are presented in the Surface Vessel Bilgewater Reports.